Fig. 1

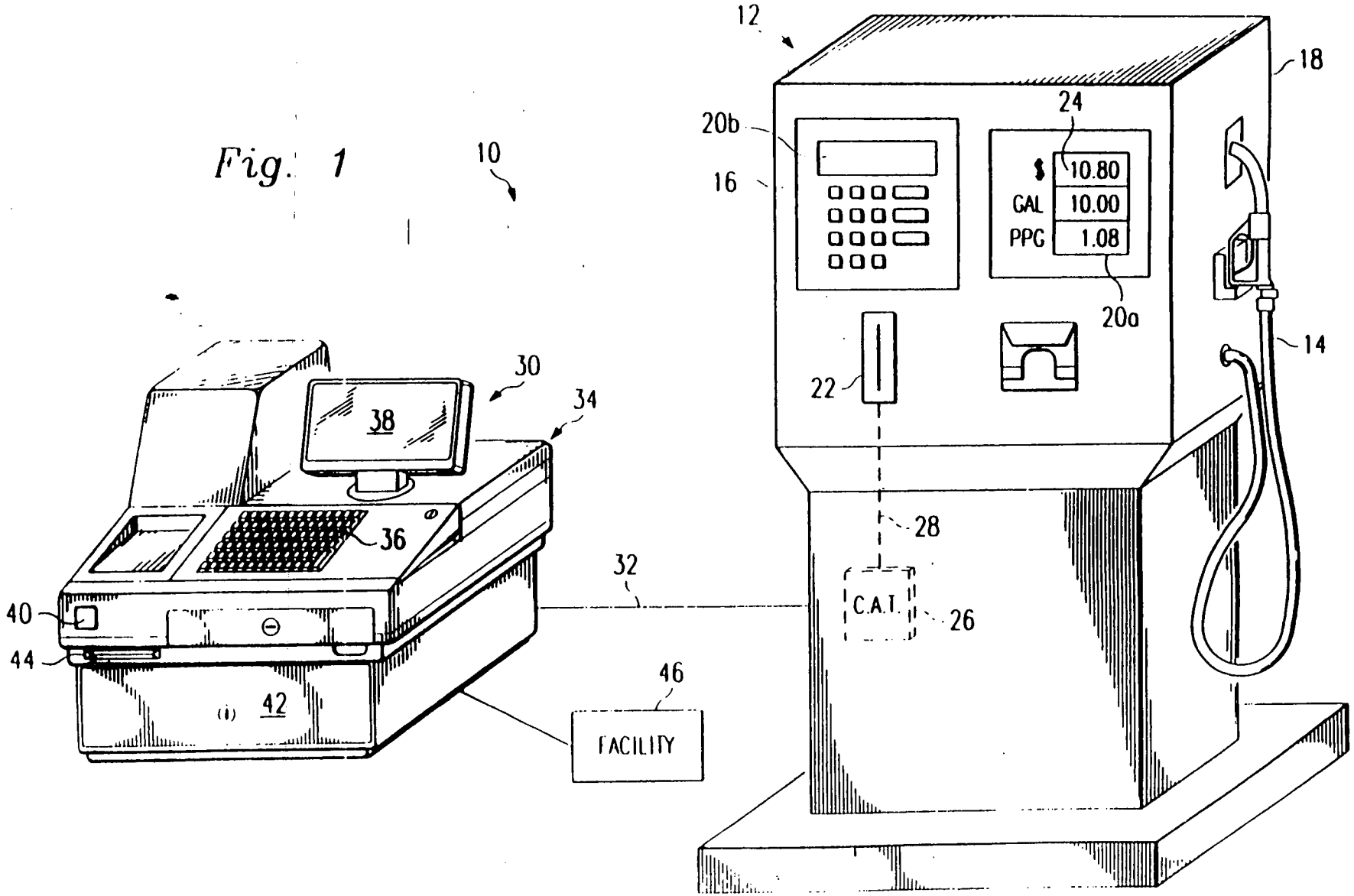

10
12
18
20b
16
24
$
10.80
GAL
10.00
PPG
1.08
20a
14
22
30
34
38
36
28
32
C.A.T.
26
40
44
42
46
FACILITY

Fig. 2

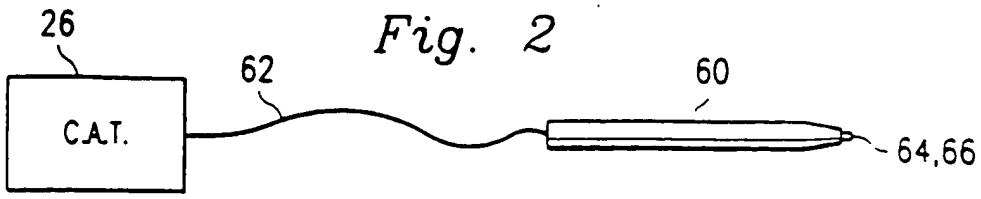


Fig. 3

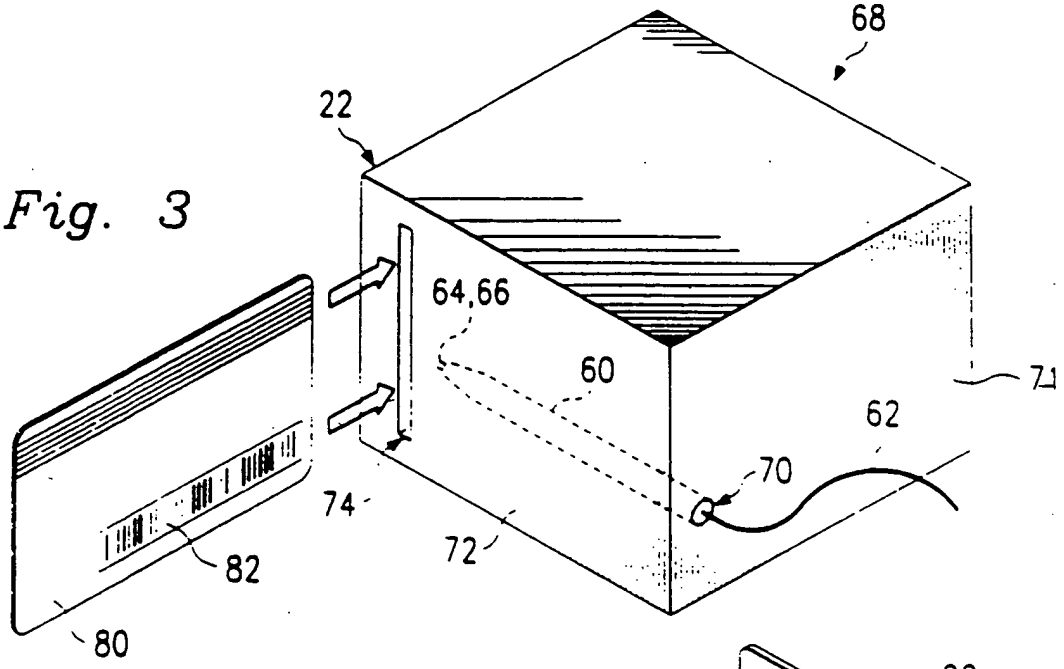


Fig. 4b

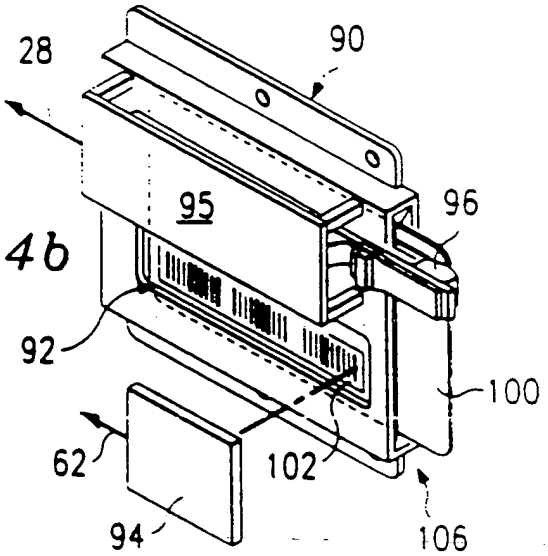
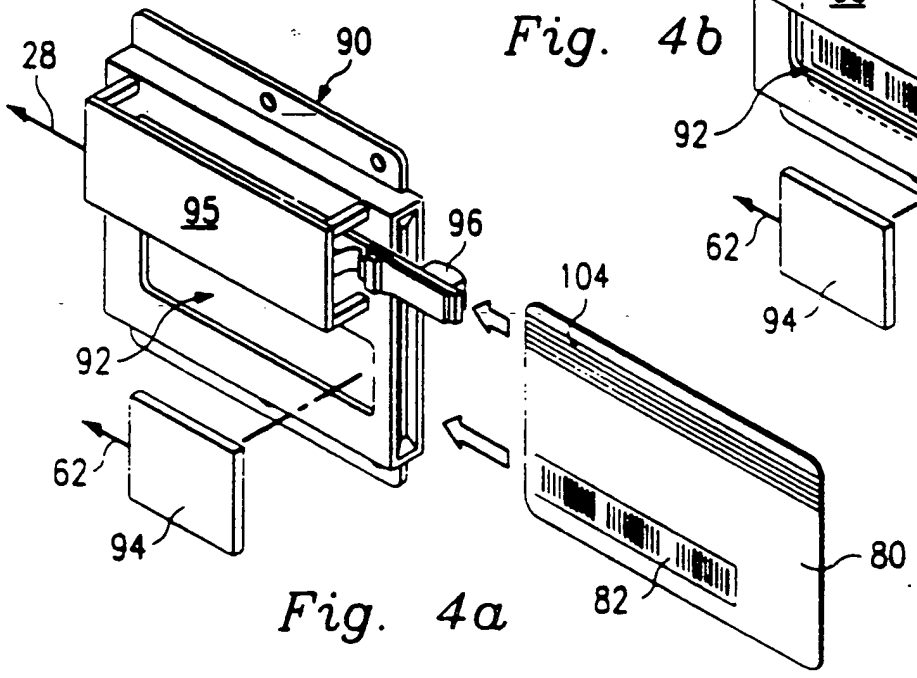
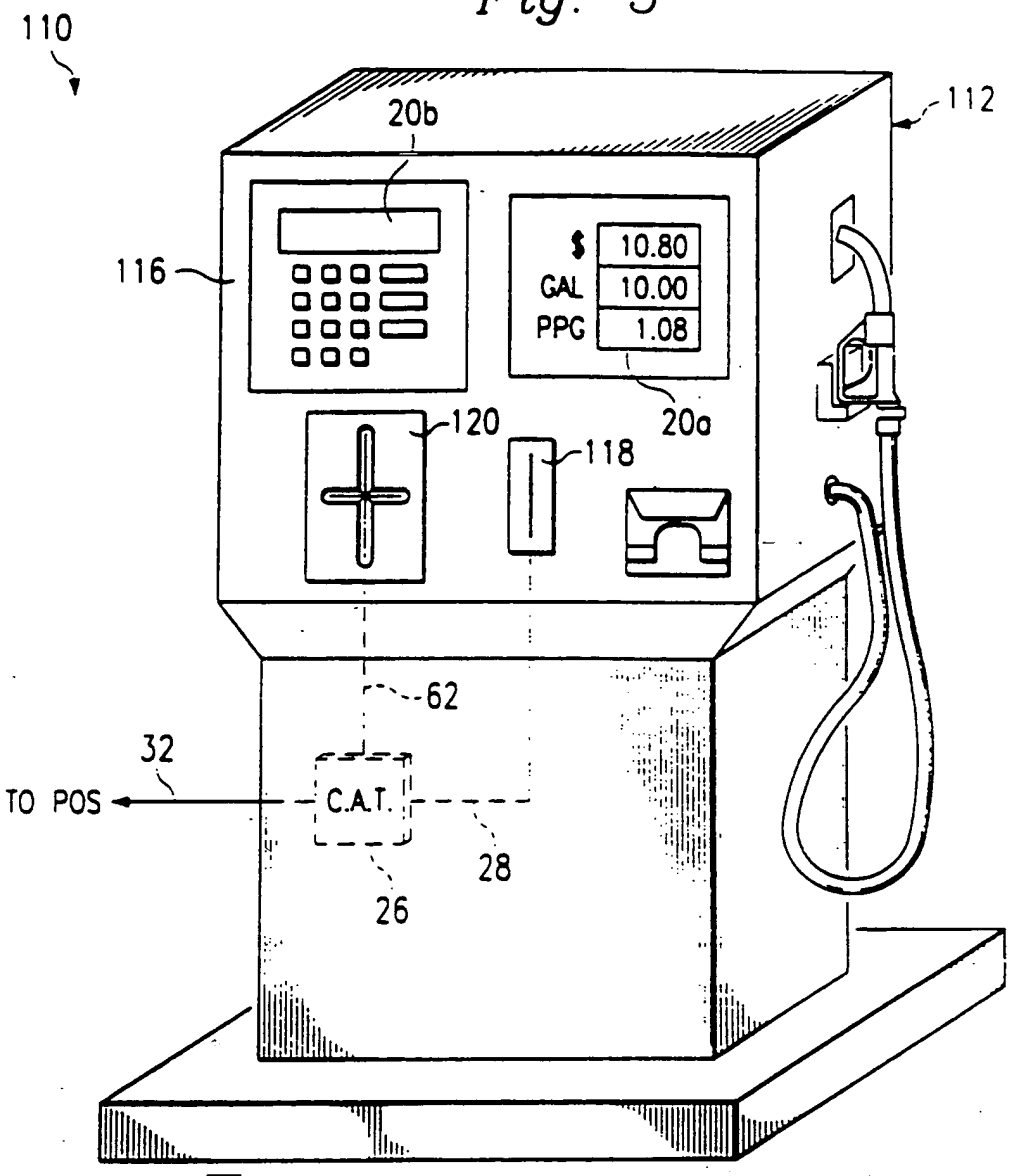


Fig. 4a



26331.72

Fig. 5



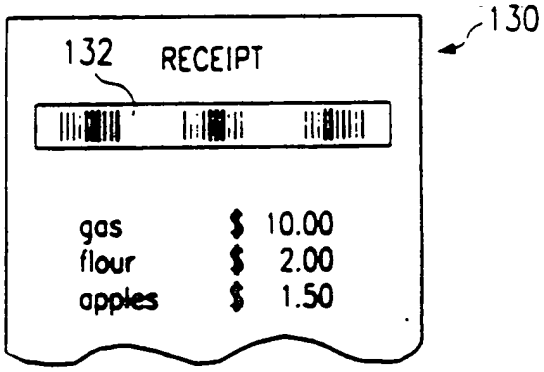
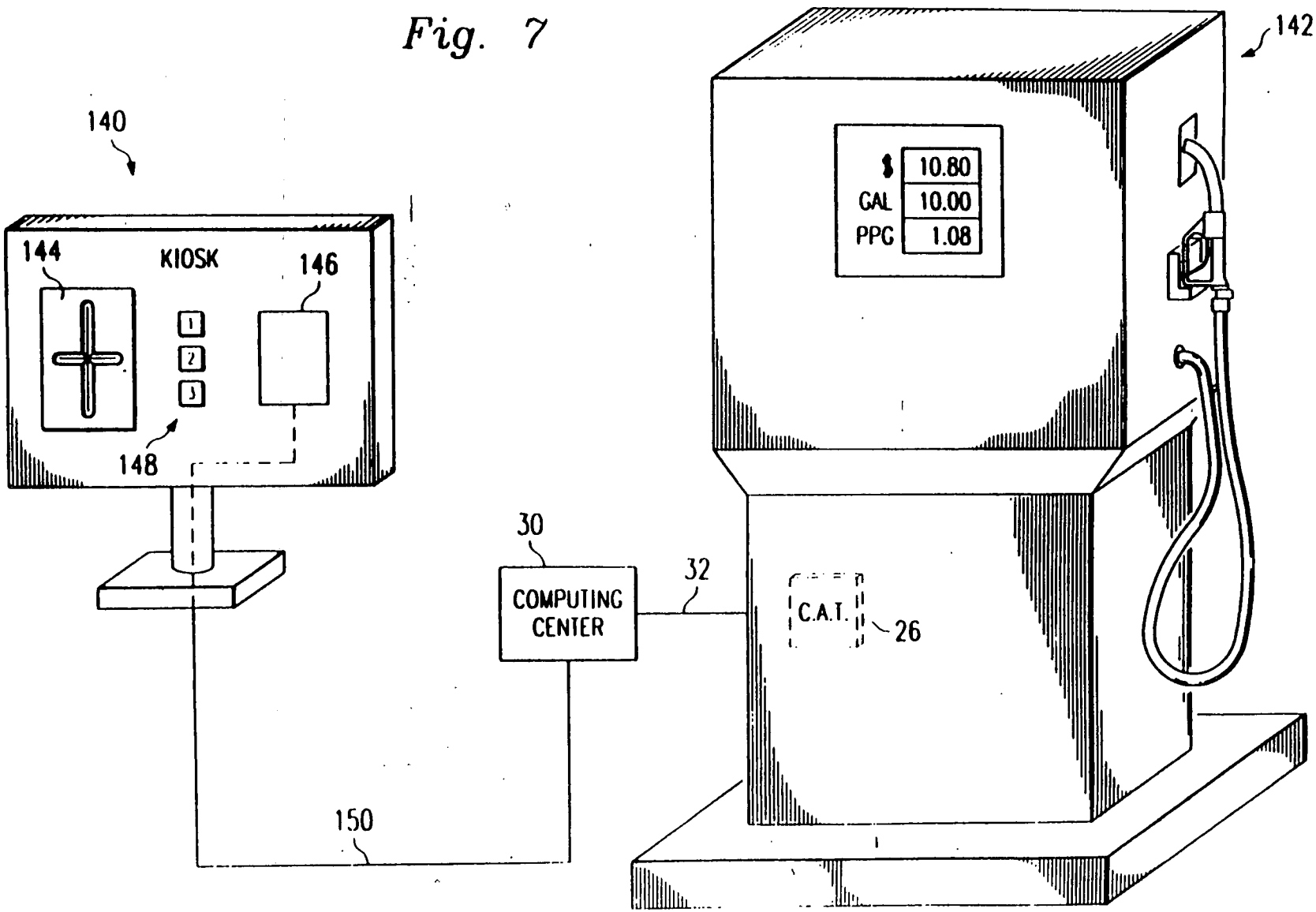


Fig. 6

Fig. 7


140
142
144
KIOSK
146
148
1
2
3
$ 10.80
GAL 10.00
PPG 1.08
30
COMPUTING CENTER
32
C.A.T.
26
150

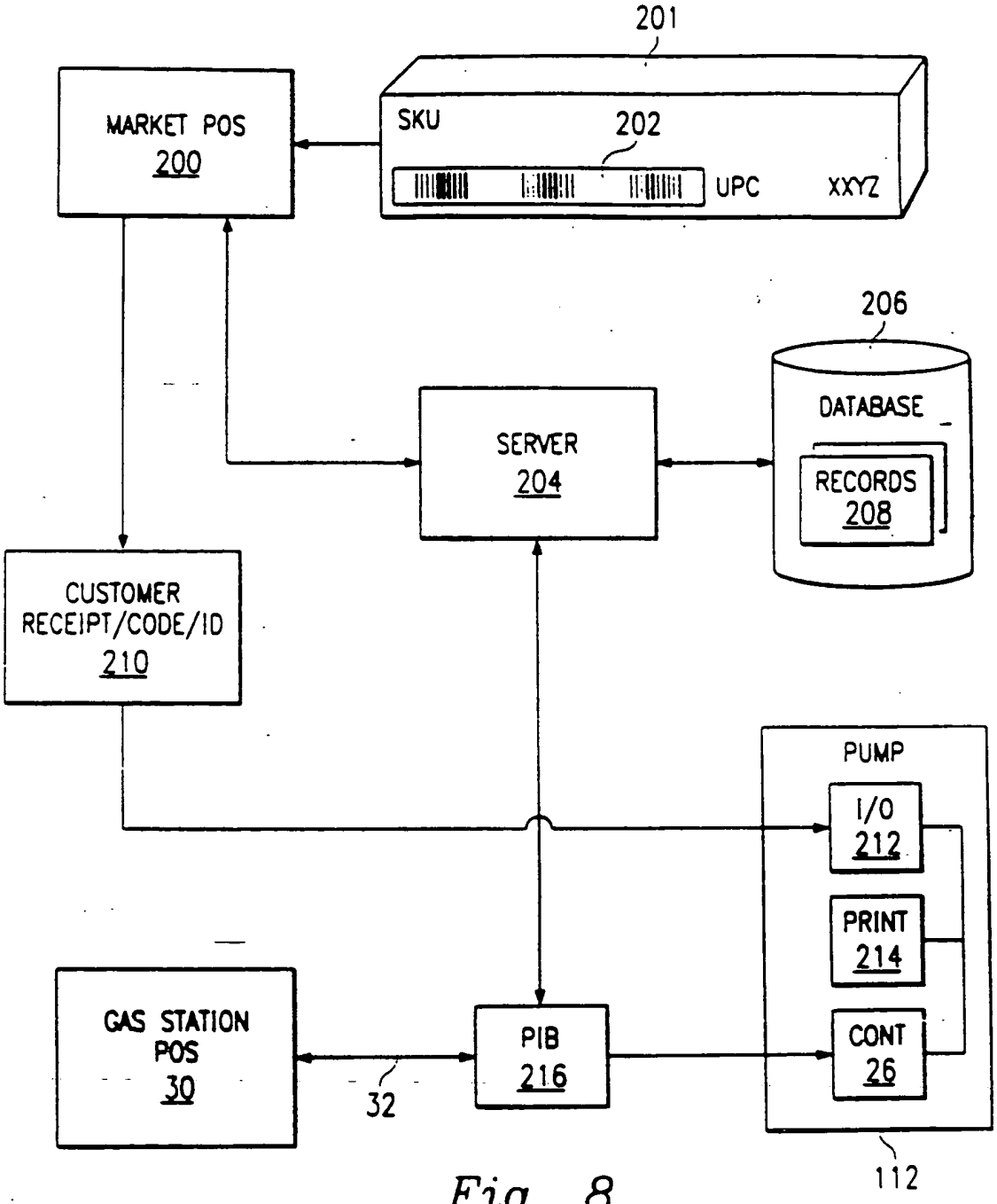

201
MARKET POS
200
SKU
202
UPC
XXYZ
206
DATABASE
RECORDS
208
SERVER
204
CUSTOMER
RECEIPT/CODE/ID
210
PUMP
I/O
212
PRINT
214
CONT
26
GAS STATION
POS
30
32
PIB
216
112

Fig. 8

Fig. 9

300

SMITH, A ID NO. 1234ABC

DATE 302	PURCHASES 304	QUANTITY OF DESIGNATED ITEMS (PROMO) 306	TOTAL QUANTITY (LOYALTY) 308	DISCOUNT 310	DISCOUNT USED 312	DISCOUNT AMOUNT 314
1/5/99	20$	3	5	N		
1/17/99	15$	5	10	Y (≥5 PROMO)	1/20/99	10¢/GAL
1/28/99	45$	2	4	N		
2/4/99	25$	1	3	Y (>20 LOY) Y (>100$)		10¢/GAL 15¢/GAL } 25¢/GAL
TOTAL	$105	11	22			

208

316 318 320

26331.72

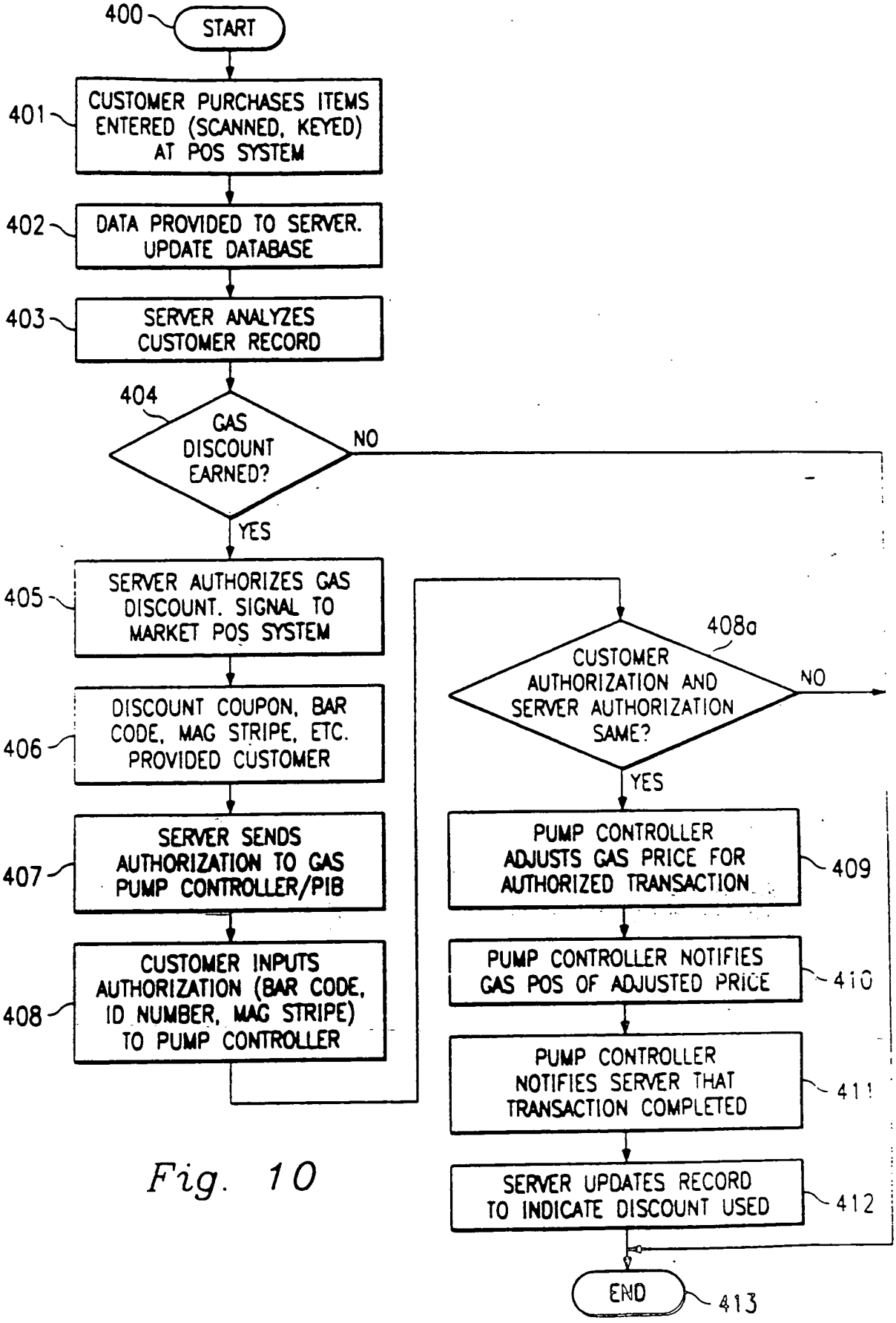

400
START
401
CUSTOMER PURCHASES ITEMS ENTERED (SCANNED, KEYED) AT POS SYSTEM
402
DATA PROVIDED TO SERVER. UPDATE DATABASE
403
SERVER ANALYZES CUSTOMER RECORD
404
GAS DISCOUNT EARNED?
NO
YES
405
SERVER AUTHORIZES GAS DISCOUNT. SIGNAL TO MARKET POS SYSTEM
406
DISCOUNT COUPON, BAR CODE, MAG STRIPE, ETC. PROVIDED CUSTOMER
407
SERVER SENDS AUTHORIZATION TO GAS PUMP CONTROLLER/PIB
408
CUSTOMER INPUTS AUTHORIZATION (BAR CODE, ID NUMBER, MAG STRIPE) TO PUMP CONTROLLER
408a
CUSTOMER AUTHORIZATION AND SERVER AUTHORIZATION SAME?
NO
YES
409
PUMP CONTROLLER ADJUSTS GAS PRICE FOR AUTHORIZED TRANSACTION
410
PUMP CONTROLLER NOTIFIES GAS POS OF ADJUSTED PRICE
411
PUMP CONTROLLER NOTIFIES SERVER THAT TRANSACTION COMPLETED
412
SERVER UPDATES RECORD TO INDICATE DISCOUNT USED
END
413

Fig. 10

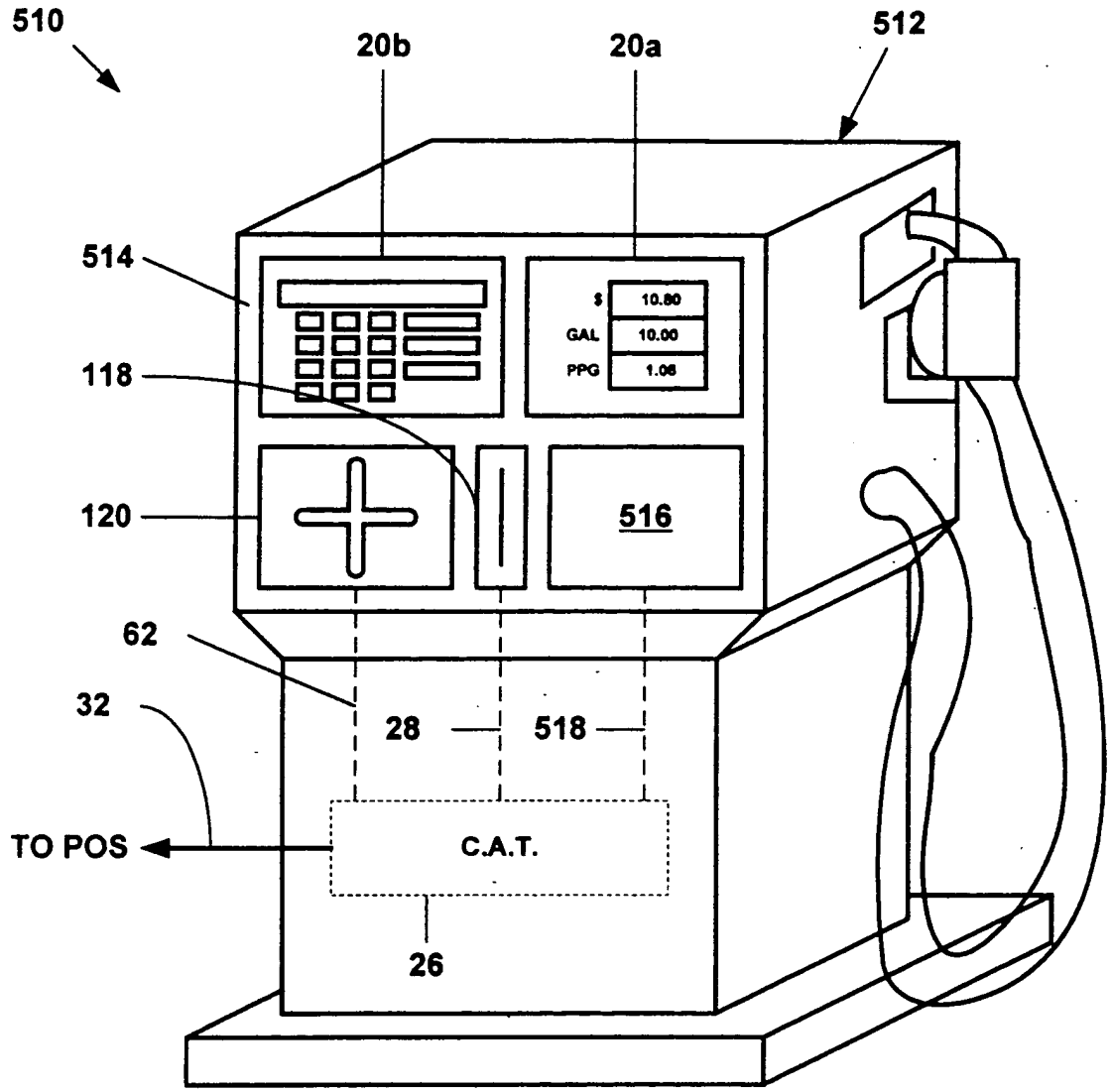

510
20b
20a
512
514
118
120
516
62
32
28
518
TO POS
C.A.T.
26
$
10.80
GAL
10.00
PPG
1.08

Fig. 11

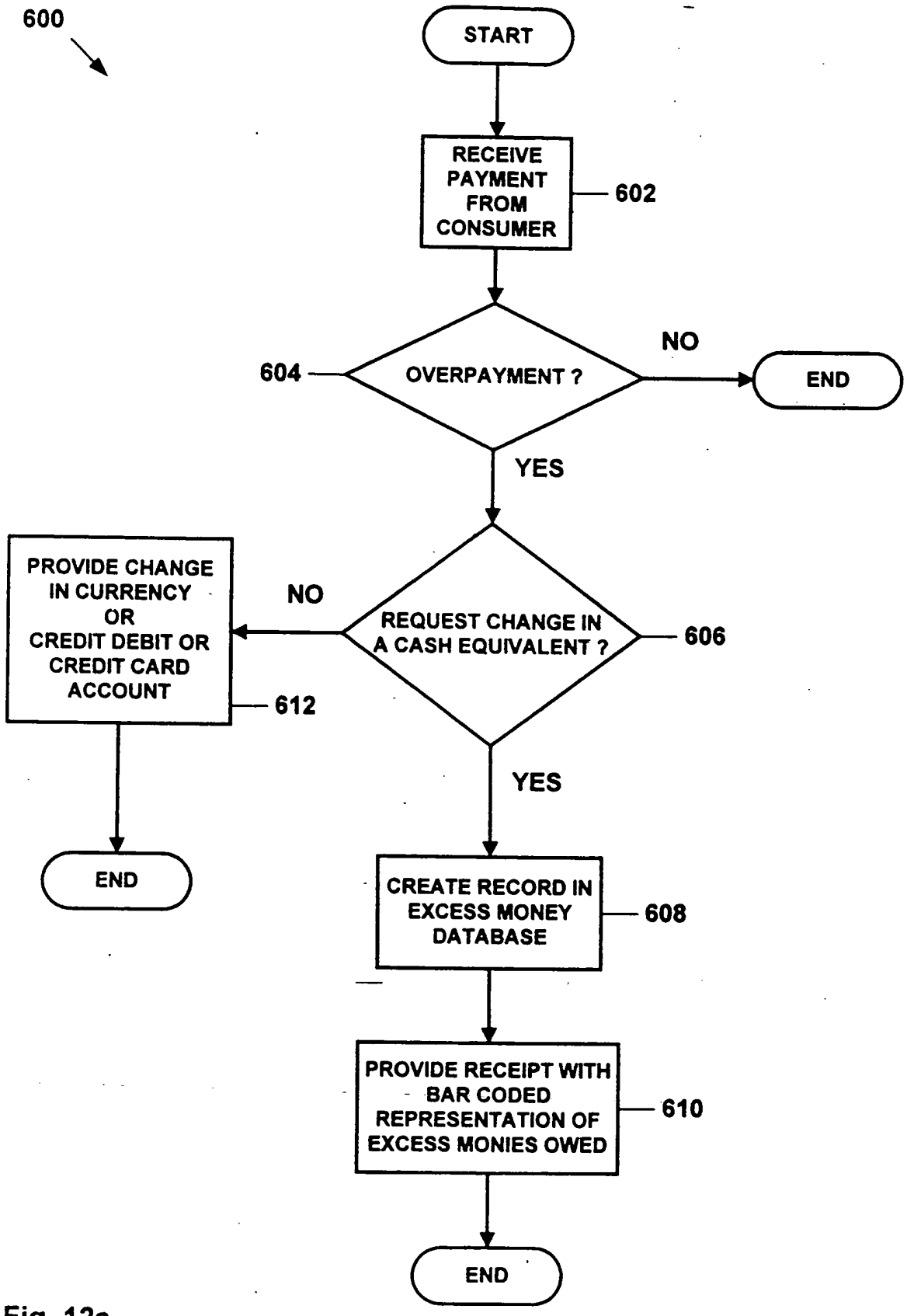

600
START
RECEIVE PAYMENT FROM CONSUMER
602
604
OVERPAYMENT ?
NO
END
YES
PROVIDE CHANGE IN CURRENCY OR CREDIT DEBIT OR CREDIT CARD ACCOUNT
NO
REQUEST CHANGE IN A CASH EQUIVALENT ?
606
612
YES
END
CREATE RECORD IN EXCESS MONEY DATABASE
608
PROVIDE RECEIPT WITH BAR CODED REPRESENTATION OF EXCESS MONIES OWED
610
END

Fig. 12a

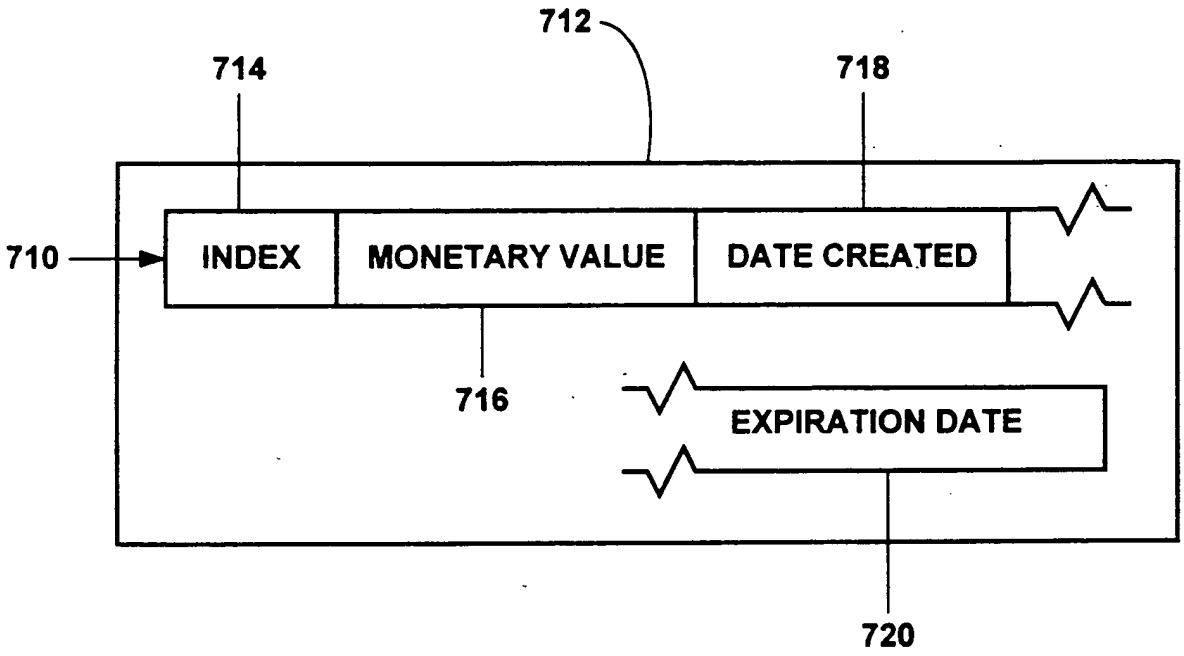


Fig. 12b

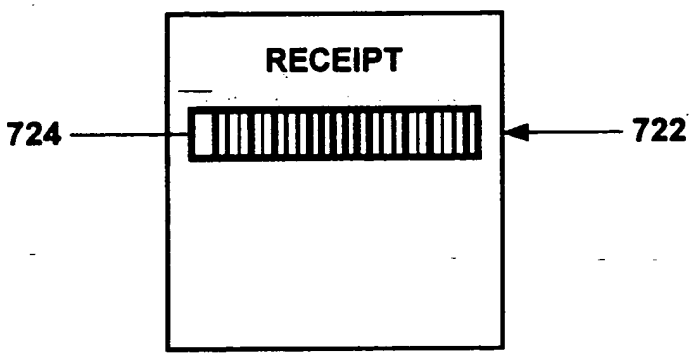


Fig. 12c